

GOVERNMENT OF GOA  
QUALITY CONTROL LABORATORY  
WATER RESOURCES DEPARTMENT

**Test Report No: WRD/QC/F.6-2/Cube -T : 6760,6761,6821,6822,6843,6844,6863,/Lab/71/2023 - 24 Dated:- 24/05/2023. Laboratory : Bicholim - Goa.**  
**6864,6874,6875,6885,6886,6905,6936,6918,6919,6931,6932,6939,6940,6942,6943,6954,6955,6975,6976. Sub Division V (QC)/WRD/ Bicholim- Goa.**

**Name of work : Anti Sea Erosion wall from Crematorium to Sunset Point Shack Huddo at Gudem Dando in V.P. Marna-Siolim in Siolim Constituency.**

Ref. to Requisition No : SDI/WDI/WRD/F.57/2023-24/30 Dt.:- 25/04/2023

Qty. Recived : **26** Sets of cube Date of Receipt:- 27/04/2023.

Tested on: 27,29/04/2023 & 03,08,10,11,13,15,16,17,18,19,22/05/2023 as per due dates. Ref to CPWD :2009, Vol. I

Sample: Cube Mix **1:2:4** O.S No: 1155,1156,1182,1183,1199,1200,1216,1217,1224,1225,1227,1228,1239,1240,1260,1261/RK & 744,745,776,777,797,798,809,810,822,823/SS.

Lab. Sample No: 6923 to 6948 Tested By : Mrs. R.R. Kadam A.E & Mrs. S. B. Naik Shirodkar J.E.

**Cube test witnessed by Shri Ajaruddin representative by agency I.B Construction On 27/04/2023.**

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| SR. NO | DISCRIPTION OF SAMPLE   | TESTED FOR                     | RESULTS       |                          | Max./Min.Value permissable | % above or below | REMARK  |
|--------|---|--------------------------------|---------------|--------------------------|----------------------------|------------------|---|
| 1      | Cement concrete cube of mix <b>1:2:4</b> , cast on 30/03/2023. for Foundation & Plinth. | 28 th day compressive strength | 219.73        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 15.78            | Qty represents - 33.00 M3 for two sets of cube. |
|        |   |                                | 249.18        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 260.51        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>243.14</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 2      | Cement concrete cube of mix <b>1:2:4</b> , cast on 30/03/2023. for Foundation & Plinth. | 28 th day compressive strength | 240.12        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 4.99             | ---do---  |
|        |   |                                | 203.87        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 217.47        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>220.49</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 3      | Cement concrete cube of mix <b>1:2:4</b> , cast on 01/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 237.85        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 13.98            | Qty represents - 31.00 M3 for two sets of cube. |
|        |   |                                | 235.59        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 244.65        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>239.36</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 4      | Cement concrete cube of mix <b>1:2:4</b> , cast on 01/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 258.24        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 18.30            | ---do---  |
|        |   |                                | 246.91        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 240.12        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>248.42</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |

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| SR. NO | DISCRIPTION OF SAMPLE   | TESTED FOR                     | RESULTS       |                          | Max./Min.Value permissable | % above or below | REMARK  |
|--------|---|--------------------------------|---------------|--------------------------|----------------------------|------------------|---|
| 5      | Cement concrete cube of mix <b>1:2:4</b> , cast on 05/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 265.04        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 20.09            | Qty represents - 36.00 M3 for two sets of cube. |
|        |   |                                | 244.65        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 246.91        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>252.20</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 6      | Cement concrete cube of mix <b>1:2:4</b> , cast on 05/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 237.85        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 15.06            | ---do---  |
|        |   |                                | 244.65        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 242.38        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>241.63</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 7      | Cement concrete cube of mix <b>1:2:4</b> , cast on 10/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 258.24        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 10.75            | Qty represents - 34.00 M3 for two sets of cube. |
|        |   |                                | 226.53        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 212.93        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>232.57</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 8      | Cement concrete cube of mix <b>1:2:4</b> , cast on 10/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 224.26        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 4.27             | ---do---  |
|        |   |                                | 203.87        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 228.79        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>218.98</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 9      | Cement concrete cube of mix <b>1:2:4</b> , cast on 12/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 203.87        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 2.12             | Qty represents - 36.00 M3 for two sets of cube. |
|        |   |                                | 215.20        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 224.26        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>214.44</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 10     | Cement concrete cube of mix <b>1:2:4</b> , cast on 12/04/2023. for Foundation & Plinth. | 28 th day compressive strength | 208.40        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 5.71             | ---do---  |
|        |   |                                | 226.53        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 231.06        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>222.00</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 11     | Cement concrete cube of mix <b>1:2:4</b> , cast on 13/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 215.20        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 5.35             | Qty represents - 35.00 M3 for two sets of cube. |
|        |   |                                | 231.06        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 217.47        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>221.24</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 12     | Cement concrete cube of mix <b>1:2:4</b> , cast on 13/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 226.53        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 4.99             | ---do---  |
|        |   |                                | 215.20        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 219.73        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>220.49</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |

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| <b>SR. NO</b> | <b>DISCRIPTION OF SAMPLE</b>  | <b>TESTED FOR</b>              | <b>RESULTS</b> |                          | <b>Max./Min.Value permissable</b> | <b>% above or below</b> | <b>REMARK</b>                                   |
|---------------|---|--------------------------------|----------------|--------------------------|-----------------------------------|-------------------------|---|
| 13            | Cement concrete cube of mix <b>1:2:4</b> , cast on 15/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 240.12         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 6.07                    | Qty represents - 33.00 M3 for two sets of cube. |
|               |   |                                | 224.26         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 203.87         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>222.75</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 14            | Cement concrete cube of mix <b>1:2:4</b> , cast on 15/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 203.87         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 3.91                    | ---do---  |
|               |   |                                | 219.73         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 231.06         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>218.22</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 15            | Cement concrete cube of mix <b>1:2:4</b> , cast on 17/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 208.40         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 2.12                    | Qty represents - 37.00 M3 for two sets of cube. |
|               |   |                                | 210.67         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 224.26         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>214.44</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 16            | Cement concrete cube of mix <b>1:2:4</b> , cast on 17/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 233.32         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 9.31                    | ---do---  |
|               |   |                                | 228.79         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 226.53         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>229.55</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 17            | Cement concrete cube of mix <b>1:2:4</b> , cast on 18/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 215.20         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 3.91                    | Qty represents - 34.00 M3 for two sets of cube. |
|               |   |                                | 206.14         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 233.32         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>218.22</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 18            | Cement concrete cube of mix <b>1:2:4</b> , cast on 18/04/2023. for 1st Lift & 2nd Lift. | 28 th day compressive strength | 231.06         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 2.84                    | ---do---  |
|               |   |                                | 192.55         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 224.26         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>215.95</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 19            | Cement concrete cube of mix <b>1:2:4</b> , cast on 19/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 265.04         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 17.22                   | Qty represents - 32.00 M3 for two sets of cube. |
|               |   |                                | 255.97         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 217.47         | Kg/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>246.16</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |
| 20            | Cement concrete cube of mix <b>1:2:4</b> , cast on 19/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 231.06         | Ka/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 5.35                    | ---do---  |
|               |   |                                | 206.14         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   |                                | 226.53         | Ka/Cm <sup>2</sup>       |                                   |                         |   |
|               |   | <b>Average</b>                 | <b>221.24</b>  | <b>Ka/Cm<sup>2</sup></b> |                                   |                         |   |

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| SR. NO | DISCRIPTION OF SAMPLE   | TESTED FOR                     | RESULTS       |                          | Max./Min.Value permissable | % above or below | REMARK  |
|--------|---|--------------------------------|---------------|--------------------------|----------------------------|------------------|---|
| 21     | Cement concrete cube of mix <b>1:2:4</b> , cast on 20/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 228.79        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 5.35             | Qty represents - 36.00 M3 for two sets of cube. |
|        |   |                                | 210.67        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 224.26        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>221.24</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 22     | Cement concrete cube of mix <b>1:2:4</b> , cast on 20/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 235.59        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 6.43             | ---do---  |
|        |   |                                | 233.32        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 201.61        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>223.51</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 23     | Cement concrete cube of mix <b>1:2:4</b> , cast on 21/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 231.06        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 5.35             | Qty represents - 35.00 M3 for two sets of cube. |
|        |   |                                | 199.34        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 233.32        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>221.24</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 24     | Cement concrete cube of mix <b>1:2:4</b> , cast on 21/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 203.87        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 4.27             | ---do---  |
|        |   |                                | 224.26        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 228.79        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>218.98</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 25     | Cement concrete cube of mix <b>1:2:4</b> , cast on 24/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 222.00        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 2.84             | Qty represents - 33.00 M3 for two sets of cube. |
|        |   |                                | 224.26        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 201.61        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>215.95</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |
| 26     | Cement concrete cube of mix <b>1:2:4</b> , cast on 24/04/2023. for 2nd Lift & 3rd Lift. | 28 th day compressive strength | 217.47        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 1.40             | ---do---  |
|        |   |                                | 215.20        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   |                                | 206.14        | Kg/Cm <sup>2</sup>       |                            |                  |   |
|        |   | <b>Average</b>                 | <b>212.93</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |   |

- Copy to: 1. The Assistant Engineer, SDI, WDI, WRD, Porvorim - Goa.
2. Copy submitted to The Superintending Engineer ,CPO,WRD, Sinchai Bhavan, Porvorim Goa for kind Information.
3. Copy submitted to The Executive Engineer, WDI, WRD, Porvorim - Goa.
4. QC Lab File.      5. Bill File.

Assistant Engineer